

REMARKS

Applicants have reviewed and carefully considered the Office Action of February 2, 2004 wherein the Examiner finally rejects claims 1-8 and 11-24 of this patent application. In response to that Office Action, the Applicants request that the Examiner reconsider the patentability of the claims based upon the comments presented in this document. Additionally, the Applicants request that the Examiner enter this Amendment of record in order to remove issues in the event appeal becomes necessary.

Applicants note the rejection of claim 1 under 35 U.S.C. §112, first paragraph. The Applicants do not agree that the phrase “combined total of polyvinyl alcohol and secondary binder in said reinforcing mat is greater than 50% by weight” previously added to claim 1 represents new matter and the Applicants do not acquiesce in this rejection. The Applicants, however, amend claim 1 in this document to remove that phrase and thereby eliminate this issue in the event of appeal.

It is also believed that newly amended claim patentably distinguishes over the cited art and should be allowed. Claim 1 reads on a wet-laid nonwoven reinforcing mat comprising a base web including about 10 to less than 50 percent by weight glass fibers and about 50 to about 90 percent by weight polyethylene terephthalate fibers. Such a compositional makeup is in no way suggested by U.S. Patent 3,622,445 to Heidweiller. More specifically, the Heidweiller patent discloses a glass-fiber web wherein the “weight ratio between the glass fibers and the organic fibers ranges from about 10:1 and 1:1” (see column 2 lines 36-37). This equates to a glass

fiber web including from 50 to about 91 percent glass fibers and between about 9-50 percent organic fibers. At no point in the Heidweiller document is there any indication or suggestion that any useful web may be made with any composition including less than 50 percent glass fibers as explicitly set forth in present claim 1. Thus, a clear compositional distinction exists between the present invention and the cited Heidweiller patent. In fact, the present invention is contraindicated by the teachings of the Heidweiller patent providing that the web must include 50 percent or more glass fibers.

When considering this distinction the Examiner argues “although Heidweiller does not specifically teach the claimed ranges of weight percentage of the glass fibers, polyethylene terephthalate fibers, polyvinyl alcohol and secondary binder, it would have been obvious to optimize the ranges to create a nonwoven web with high strength, dimensional stability and compressive strength.” This is nothing more than a blanket statement that one skilled in the art would find it obvious to seek an improved product. If such a statement were a proper basis upon which to support a rejection, no future development would be patentable. In accordance with a long line of cases including *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Geiger* 2 USPQ2d 1276 (Fed. Cir. 1987); and *In re Goodwin*, 198 USPQ1 (CCPA 1978), “obvious to try” is not a legitimate test of patentability. The question that remains unanswered is “Upon what basis, teaching or suggestion does the Examiner jump to such a conclusion?”

As noted in the MPEP at section 2143.01:

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem being solved as a whole would have suggested to those of ordinary skill in the art.

For purposes of this rejection, the Examiner has simply indicated that modification of the ranges explicitly taught in the Heidweiller patent to those explicitly set forth in claim 1 of the present application would be “obvious” without relying on objective evidence or making any specific factual findings with respect to the motivation to make that modification. For example, the Heidweiller patent explicitly teaches that a web must include 50% or more glass fibers yet in formulating the rejection the Examiner ignores this teaching. Here, it must be noted that the Examiner has failed to establish any reasonable expectation of success outside of this glass fiber range. Thus, the present rejection fails under the standards set forth by the Court of Appeals for the Federal Circuit in *In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991); see also MPEP § 2143 and *In re: Lee*, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002). Further, the only suggestion or motivation in the record to modify the explicit component makeup for the mat in Heidweiller to meet the percentage ranges set forth in claim 1 appears to be the teachings explicitly set forth in the present application. It is of course improper to use the present application as a guide in hindsight to modify the prior art and form a basis of a rejection for obviousness. See,

for example, *Ex Parte Clapp*, 227 USPQ 972 (Bd. Pat. App. & Int. 1985). Similarly, it is well established that it is error to find obviousness where references “diverge from and teach away from the invention at hand.” See *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 USPQ 303, 311 (Fed. Cir. 1983) and *In re Fine*, 5 USPQ2d 1596, 1599 (Fed. Cir. 1988).

After considering the cited case law as well as the lack of objective evidence and specific factual findings with respect to motivation to modify the Heidweiller patent, it is believed the Examiner will agree that the present obviousness rejection of claim 1 is improper and should be withdrawn. Claims 2-8, 11, 13-18 and 21 which are rejected on the same grounds depend from claim 1 are equally allowable for the same reasons.

Claim 19 very clearly distinguishes over the Heidweiller patent even when considered in combination with U.S. Patent 6,267,843 to Helwig et al. More specifically, claim 19 depends from claim 1 through claims 17 and 18. Claim 17 explicitly provides that the base web includes glass fibers in an amount of about 25 to about 40 percent by weight. In contrast, the Heidweiller et al. patent explicitly teaches that the weight ratio of glass fibers to organic fibers ranges from 10:1 to 1:1 and preferably from 7:1 to 3:1. Thus, Heidweiller explicitly teaches providing glass fibers at a weight ratio of about 50 to about 91 percent and “preferably” at about 75 to 87.5 percent. Clearly, the 25 to 40 percent range set forth in claim 19 is well outside the range of 50-95 percent and “preferably” 75 to 87.5 percent set forth in the Heidweiller patent. Just as clearly, the Heidweiller patent fails to provide any teaching or suggestion to lead one skilled in the art to

prepare a mat incorporating less than 50 percent glass fibers as now claimed. In fact, such a low percentage of glass fibers is contraindicated by Heidweiller.

Significantly, the secondary reference, U.S. Patent 6,267,843 to Helwig et al., refers to a mat incorporating from 50 to 90 percent glass (see column 2 line 30). Thus, the secondary reference also teaches a mat including a minimum of 50 percent glass fibers. Neither of the cited references teach or suggest that any useful mat may be made with less than 50 percent glass fibers. Neither teaches or suggests how much polyvinyl alcohol or secondary binder should be provided in any form of mat including less than 50 percent glass fibers. Neither of the cited references teach or suggest what size polyvinyl alcohol fibers should be utilized and in what proportion in order to provide a useful mat incorporating less than 50 percent glass fibers.

Stated another way, none of the references teach or suggest the detailed formulation set forth in present claim 19. Further, whether considered alone or in combination, the Heidweiller and Helwig et al. patents fail to provide any motivation for one skilled in the art to modify the explicit teachings of those references in order to arrive at the presently claimed invention as set forth in claim 19. The mere fact that the prior art could be so modified does not make the modification obvious. This is because the prior art does not suggest the desirability of the modification. See *In re Laskowski*, 10 USPQ2d 1397 (Fed. Cir. 1989). In fact, the only source of motivation to lead one skilled in the art to modify the Heidweiller

and Helwig et al. patents and combine them in the manner suggested by the Examiner is the present application. It, of course, is improper to use the present application as a guide in resolving the issue of obviousness. Thus, there can be no question but that claim 19 should be allowed.

Independent claim 22 also very clearly patentably distinguishes over the Heidweiller and Helwig et al. '843 patents. More specifically, neither of the cited references teach or suggest providing the claimed invention and particularly, the ratios of glass fibers to polyethylene terephthalate fibers to polyvinyl alcohol and to secondary binder. Further, neither of the cited references suggest that any advantage is achieved in utilizing polyvinyl alcohol in a fiber form of particular diameter and length in a mat of less than 50% glass fibers as claimed.

Claim 23 which depends from claim 1 further distinguishes in that neither of the cited references explicitly refer to a reinforcing mat incorporating polyvinyl alcohol fiber having a diameter of 6-11 microns as claimed. Thus, claims 22 and 23 patentably distinguish over the cited art and should also be allowed.

Claims 20 and 24 also patentably distinguish over the Heidweiller patent even when considered in combination with U.S. Patent 5,800,675 to Kinsley, Jr. The Kinsley, Jr. patent is cited for its disclosure of a paper-based product including a particular binder formed from polyvinyl alcohol powder. It is unclear to the Applicant how a teaching in Kinsley, Jr. applicable to paper-based products is in any way relevant to the present invention. Certainly, the Kinsley, Jr. patent fails to provide any motivation

to one skilled in the art to modify the Heidweiller patent to provide glass fibers in an amount of about 25 to about 40 percent by weight as set forth in claim 17 from which claim 20 depends. In contrast, the Heidweiller patent explicitly teaches providing glass fibers at a weight of at least 50 percent.

On page 12 of the Office Action the Examiner argues that “although Heidweiller does not specifically teach the claimed ranges of weight percentage of the glass fibers, polyethylene terephthalate fibers, polyvinyl alcohol and secondary binder, it would have been obvious to optimize the ranges to create a nonwoven web with high strength, dimensional stability and compressive strength.” Applicant disagrees. While this reasoning suggests that it is desirable to provide an improved mat, there is no objective evidence or any specific factual finding to support this reasoning or conclusion and lead one skilled in the art to the claimed invention. Thus, the rejection is actually improper.

The improper basis of the rejection is further substantiated by the secondary reference to Kinsley, Jr. The Kinsley, Jr. reference discloses a paper-based product including a particulate binder formed from polyvinyl alcohol powder. It is unclear to the Applicant how a teaching applicable to paper-based products is in any way relevant to the present invention. This is particularly true when the primary reference to Heidweiller fails to teach or suggest that a useful mat can be made with less than 50 percent glass fibers and the secondary reference to Kinsley, Jr. is silent with respect to this distinction. When considered together, the two references simply fail to teach or suggest that any reinforcing mat can be successfully made

utilizing the method set forth in claims 20 and 24. Accordingly, these claims should be allowed.

Claims 1 and 6 are also patentable over U.S. Patent 5,935,879 to Helwig et al. In considering the propriety of this rejection the Examiner must again focus upon the explicit teachings of the Helwig et al. patent and the explicit invention set forth in present claim 1. Claim 1 explicitly refers to a base web including about 10 to less than 50 percent by weight glass fibers and about 50 to about 90 percent by weight polyethylene terephthalate fibers. In stark and total contrast, the Helwig et al. '879 patent states: "It is desirable for most, if not all, of the reinforcement fibers to be made from glass." See column 2 lines 40-41. At column 6 lines 28-30 the Helwig et al. '879 patent states: "It is believed that the amount of the reinforcement fibers 12 in the fiber mat 10 will range from about 50 percent to about 95 percent by weight." Examples 1-4 of the Helwig '879 patent describe mats incorporating 100% glass reinforcement fibers. Example 5 of the Helwig '879 patent describes a mat incorporating 3200 grams of irregularly shaped glass reinforcement fibers and 800 grams of polyethylene terephthalate reinforcement fibers: that is, a 4:1 ratio. In other words, the mat incorporates 80 percent glass reinforcement fibers.

In this case the explicit teaching of the Helwig et al. '879 patent is that "It is desirable for most, if not all, of the reinforcement fibers to be made of glass" and that the mat comprise 50 to 95 percent by weight of reinforcement fibers. In other words, the Helwig et al. '879 patent explicitly teaches and directs one skilled in the art to make a mat with greater than 50

percent by weight glass fibers. In contrast, the present invention claims a base web of a reinforcing mat with only about 10 to less than 50 percent by weight glass fibers. There is no suggestion in the Helwig et al. '879 patent to make a reinforcing mat with less than 50 percent by weight glass fibers. In fact, the Helwig et al. '879 patent explicitly teaches away from that concept and the present invention as set forth in claim 1. Stated another way there is no motivation for one skilled in the art to modify the claimed invention as suggested by the Examiner in order to support his rejection. One would in no way have it suggested to him to ignore the explicit teaching of this reference relating to the higher amount of glass fibers to be provided in the mat. Consequently, claim 1 clearly patentably distinguishes over this art and should be allowed.

Claim 6 depends from claim 1 and is also allowable for the same reasons.

Finally, claim 12 very clearly patentably distinguishes over the Helwig et al. '879 patent even when considered in combination with U.S. Patent 6,365,001 to Helwig et al. The Helwig et al. '879 reference is the primary reference for this rejection. The Helwig et al. '879 patent explicitly teaches that the reinforcing fibers are to be provided in the mat from about 50 percent to about 95 percent by weight and that most if not all of these fibers are to be glass fibers. There is nothing in this explicit teaching that would suggest to or lead one skilled in the art to provide less than 50 percent glass fibers in a mat as set forth in claim 1 from which claim 12 depends. There is simply no basis whatsoever for the Examiner to argue

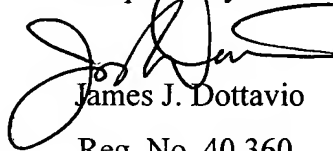
that one skilled in the art would ignore the explicit teachings of the Helwig '879 patent that lead to a contrary conclusion.

The Helwig '001 patent is cited for its disclosure of a base mat incorporating a secondary binder of vinyl acetate ethylene copolymer. It must be appreciated, however, that the Helwig '001 patent expressly teaches a mat incorporating 50 to 90 percent glass fibers (see column 2 lines 31-32) just like the Helwig '879 patent. Thus, both of the references cited by the Examiner in rejecting the claim explicitly refer to mats incorporating greater than 50 percent glass fibers. Thus, both of the cited references explicitly teach away from the present invention. While the Examiner argues it would have been obvious to alter the weight percentage of glass fiber, polyethylene terephthalate fibers, polyvinyl alcohol and secondary binder to optimize the ranges to create a nonwoven web with high strength, dimensional stability and compressive strength, the cited references do not support such a conclusion. It must be appreciated that one cannot simply ignore the explicit teachings of the references in this process. Yes, it may be argued that it would be obvious to alter the percentage of glass fiber in the mat within the explicitly presented range of 50 to 95 percent but in no event would it be obvious to ignore the explicit teachings of the cited references which limit a mat to greater than 50 percent glass fibers. It has long been established that it is error to find obviousness where references “diverge from and teach away from the invention at hand.” See *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 USPQ 303, 311 (Fed. Cir. 1983) and *In re Fine*, 5 USPQ2d 1596, 1599 (Fed. Cir. 1988). The Helwig et al. '879 and

'001 patents cited and applied by the Examiner in the rejection of claim 12 simply teach away from the present invention. The provision of a mat with less than 50 percent glass fibers is simply contraindicated by the explicit teaching of these references and as a result any rejection of claim 12 based upon these references is improper and should be withdrawn.

In summary, all the pending claims patentably distinguish over the prior art and should be allowed. Upon careful review and consideration it is believed the Examiner will agree with this proposition. Accordingly, the early issuance of a formal Notice of Allowance is earnestly solicited. If any fees are required pertaining to this response, Applicant requests that they be charged to Deposit Account No. 50-0568.

Respectfully submitted,



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